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## **THE USE OF WATER AS A WEAPON UNDER INTERNATIONAL HUMANITARIAN LAW WITH SPECIAL EMPHASIS ON THE DESTRUCTION OF THE NOVA KAKHOVKA DAM**

### **Abstract**

The research aim of this article is to identify the international humanitarian law regulations applicable to water resources and water infrastructure as well as to define their character. The connected research questions are: Are such regulations rather protective or allowing the use of water resources and infrastructure as a means of warfare?, Can such objects be attacked or destroyed in any circumstances?, How to legally classify the destruction of the Nova Kakhovka dam? This article in a comprehensive way examines the legal framework on water resources and infrastructure in international armed conflicts, taking into account the ongoing Russian aggression against Ukraine.

### **KEYWORDS**

weaponization, water infrastructure, international humanitarian law, Russia-Ukraine war, Nova Kakhovka dam

## SŁOWA KLUCZOWE

weponizacja, infrastruktura wodna, międzynarodowe prawo humanitarne, wojna rosyjsko-ukraińska, tama w Nowej Kachowce

## I. INTRODUCTION

Water is extremely important for humans. Without water there is no life. Unfortunately, during armed conflicts water may become a victim as part of destroyed natural environment, but it may also be used as a means of warfare. Another term used to describe the latter process is ‘weaponization’ which signifies that water is used as ‘a means of gaining advantage or defending oneself in a conflict or contest [...] an item, action, offensive capability, or mechanism used or intended to kill, injure, or coerce’.<sup>1</sup> There are two main ways water can be employed in land warfare: as an area-denial weapon and as a means of besieging and disrupting food and shelter supplies. One of the methods involves blowing up a dam to flood the lower area, aiming to prevent the enemy from fortifying or inhabiting the terrain. Alternatively, the purpose of targeting a dam might be to disable a hydroelectric plant or reservoir, thereby undermining the enemy’s war economy. However, despite these possibilities, the success of flooding enemy territories or employing water as a siege engine is limited due to the constraints imposed by the terrain.<sup>2</sup> Tobias von Lossow indicates that there are ‘three main ways to use water as a weapon, namely by making sure that there is either too little, or alternatively too much water – both of which involve manipulating quantity – or that water is unusable, by reducing its quality’.<sup>3</sup>

History knows many examples of destruction of water structures such as dams or dikes. Cyrus the Great allegedly captured Babylon in the 6th century B.C. in a remarkable manner. He is said to have accomplished this feat in just one night by redirecting an old artificial lake protecting the city back into the Euphrates River. This strategic move allowed his army to approach the city walls under the cover of darkness and surprise the defenders.<sup>4</sup> The earliest confirmed cases of intentional damage to dams and dykes for military purposes can be traced to the Eighty Years’ War in the 16th and 17th century, when Dutch rebel groups fighting

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<sup>1</sup> Marcus DuBois King, ‘The Weaponization of Water in Syria and Iraq’ (2015) 38 (4) *Washington Quarterly* 153, 155.

<sup>2</sup> Dam warfare (2014) <<https://medium.com/war-is-boring/dam-warfare-3da6ee24518a>> accessed 15 July 2024.

<sup>3</sup> Tobias von Lossow, ‘The Rebirth of Water as a Weapon: IS in Syria and Iraq’ (2016) 51 (3) *The International Spectator*, 82, 87.

<sup>4</sup> Dam warfare (n2).

against the Spanish army in the then Spanish Netherlands flooded some of the agricultural areas that had been painstakingly reclaimed from marshes and the sea in order to hinder the advance of Spanish troops, forcing them to go through new marshlands. With the development of river damming and drainage techniques, such practices (which paradoxically fall under the ‘scorched earth’ tactics) could and have been used in warfare with increasing impact. In World War II, the destruction of dams as a means of warfare became widely known through the Dambusters raid in May 1943, when British forces targeted three German dams (Gillespie 2023).<sup>5</sup> The operation Chastise involved breaching multiple dams to disable power plants, but its long-term impact was minimal due to its one-time nature, as the Germans swiftly repaired the damage. However, the flooding resulting from the breaches caused significant loss of life, with over a thousand German civilians and numerous Allied prisoners in downstream camps losing their lives (Dam warfare 2014; Schmitt 2022a).<sup>6</sup>

In terms of the sheer loss of life, another area-denial tactic far exceeded the Chastise operation. In June 1938, during the Second Sino-Japanese War, hundreds of thousands of Chinese civilians died when the Nationalist Chinese breached the Yellow River dykes.<sup>7</sup> The Nationalists’ estimates indicated that approximately 800,000 people lost their lives due to the flooding, which resulted in the destruction of shelter, food scarcity, and drinking water pollution. Later, the Communists provided a higher estimate, suggesting that up to 900,000 civilians died. Additionally, the disastrous event resulted in between three and 12 million people being displaced from their homes.<sup>8</sup>

Similarly, during the Korean War, the United States military, operating under the United Nations, launched a bombing campaign against North Korean hydroelectric facilities. For example, the Hwachon hydroelectric dam complex became a focal point of military action, illustrating a strategic target during an international armed conflict. U.S. Navy aircraft executed a strike on the dam in 1951, as it was identified that North Korea could exploit it to obstruct the advancement of U.N. forces by causing flooding downstream. Moreover, the dam’s gates could be manipulated to lower the water level, creating opportunities for river crossings to attack the flanks of the U.N. forces.<sup>9</sup>

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<sup>5</sup> Alexander Gillespie, ‘Why blowing up Ukraine’s Nova Kakhovka dam is a war crime’ (2023) <<https://www.aljazeera.com/opinions/2023/6/8/blowing-up-ukraines-nova-kakhovka-dam-is-a-war-crime>> accessed 15 July 2024.

<sup>6</sup> Dam warfare (n2); Michael N. Schmitt, ‘Attacking dams – part I: customary international law’ (2022), <<https://lieber.westpoint.edu/attacking-dams-part-i-customary-international-law/>> accessed 15 July 2024.

<sup>7</sup> Dam warfare (n2).

<sup>8</sup> *ibid.*

<sup>9</sup> Schmitt (6); for more examples see also Marwa Daoudy, ‘Water weaponization in the Syrian conflict: strategies of domination and occupation’ (2020) 96 (5) *International Affairs* 1347; L. J. del Giacco, Renato Drusiani, Luca Lucentini and Susanna Murtas, ‘Water as a weapon in

In April 2014, Islamic State fighters in Iraq and Syria successfully captured the Nuaimiyah Dam in western Iraq, despite previous attempts to protect the site. Following the takeover, they deliberately overflowed the dam to force Iraqi soldiers out of their positions upstream and to deprive civilians downstream of access to drinking water.<sup>10</sup> In another recent example of 2017, the US in its war against ISIS reportedly conducted airstrikes on Syria's Tabqa Dam despite warnings that the attack could potentially result in tens of thousands of deaths.<sup>11</sup> Luckily, the attack caused only equipment failure, leading to a perilous increase in the water level of the reservoir. This prompted warnings to individuals living downstream about the potential risks. As a consequence of the attack, Turkey also took measures to reduce the flow of water into the reservoir from upstream sources.<sup>12</sup> Most recently, on 6 June 2023, Russia destroyed the Nova Kakhovka dam on the Dnipro river, which will be analyzed in more detail below. For those who seek more extensive information, the Pacific Institute, a think tank based in the United States, manages a database called the *Water Conflict Chronology* (<https://www.worldwater.org/conflict/map/>), which encompasses historical incidents worldwide from 2500 BC to 2010 AD.

Against this historical background, the research aim of this article is to identify the international humanitarian law (IHL) regulations applicable to water resources and water infrastructure as well as to define their character. The connected research questions are: Are such regulations rather protective or allowing the use of water resources and infrastructure as a means of warfare?, Can such objects be attacked or destroyed in any circumstances?, How to legally classify the destruction of the Nova Kakhovka dam? The research methods include institutional-legal analysis, case study and, supplementarily, critical analysis of the literature. The institutional-legal analysis focuses on the examination of international treaties such as the Geneva Conventions of 1949 and the Additional Protocol I to the Geneva Conventions, which constitute the main legal reference points in this paper, as well as on other documents which may not be binding (such as the Geneva List of Principles on the Protection of Water Infrastructure of 2019<sup>13</sup>). The case study method is used to examine the mentioned case of water weaponization during the Russian aggression against Ukraine.

The structure of the paper is as follows: after this historical and factual introduction and methodological considerations, section 2 will outline the relevant

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ancient times: considerations of technical and ethical aspects' (2017) 17 (5) *Water Science and Technology: Water Supply*, 490–98; King (n1) 155.

<sup>10</sup> Dam warfare (n2).

<sup>11</sup> Gillespie (n5).

<sup>12</sup> Schmitt (n6).

<sup>13</sup> Geneva Water Hub, 'Geneva Principles on the Protection of Water Infrastructure' (2019) <[https://www.genevawaterhub.org/sites/default/files/atoms/files/gva\\_list\\_of\\_principles\\_protection\\_water\\_infra\\_www.pdf](https://www.genevawaterhub.org/sites/default/files/atoms/files/gva_list_of_principles_protection_water_infra_www.pdf)> accessed 15 July 2024.

IHL provisions applicable to water resources and infrastructure, while section 3 will concentrate on the case study of war in Ukraine. Finally, in the conclusions, the author will attempt to answer the research questions. In a comprehensive way, this article examines the legal framework on water resources and infrastructure in international armed conflicts, taking into account the ongoing Russian aggression against Ukraine. Its novelty consists, on the one hand, of the fact that it combines hard and soft law instruments and applies them to the evaluation of, in particular, the destruction of the Nova Kakhovka dam. On the other hand, to the author's knowledge, this is the first article systematically examining the case of the destruction of the Nova Kakhovka dam and applicable international humanitarian legal regulations protecting critical water infrastructure. The only available analyses are legal blog examinations to which this paper refers. Still, this paper is the first scientific, legal article to systematically and comprehensively analyze the destruction of the Nova Kakhovka dam and identify applicable IHL norms.

## **II. INTERNATIONAL HUMANITARIAN LAW AND WATER INFRASTRUCTURE**

While international humanitarian law does not specifically address the use of water resources and water infrastructure as a tactic or tool of warfare, certain rules within IHL have potential relevance in prohibiting such practices. These rules may apply to safeguarding civilian populations, ensuring access to essential resources, and preventing unnecessary harm to the environment during armed conflicts. Although not directly addressing water-related tactics, IHL aims to protect civilians and minimize the destructive impact of warfare on vital resources and infrastructure.

Express provisions on water and water infrastructure may be found in Articles 26 and 89 of the Geneva Conventions III and IV respectively (both on sufficient drinking water that has to be accessible for prisoners of war and civilian internees respectively), Articles 54 and 14 of Additional Protocols I and II respectively (on prohibition of starvation and destruction of drinking water installations, supplies and irrigation works), Articles 56 and 15 of Additional Protocols I and II respectively (on the protection of dams) and Articles 35 and 55 of Additional Protocol I referring to the environment. There are also soft law instruments such as the Geneva Principles on the Protection of Water Infrastructure of 2019. The considerations below will be limited only to international armed conflicts as such is the nature of the conflict between Russia and Ukraine.

## 1. GENERAL PRINCIPLES OF IHL

Before delving into the details of specific provisions on water resources and water infrastructure, it is necessary to outline the basic IHL regulations. One fundamental principle in IHL is that of distinction, mandating that all parties in a conflict must consistently differentiate between civilians and civilian objects, and combatants and military objectives. Consequently, any attacks should exclusively target military objectives and combatants, while ensuring the protection of civilians and civilian objects (Article 48 of Additional Protocol I). Military objectives, in turn, are defined in Article 52 (2) of Additional Protocol I in the following way: ‘those objects which by their nature, location, purpose or use make an effective contribution to military action and whose total or partial destruction, capture or neutralization, in the circumstances ruling at the time, offers a definite military advantage’.<sup>14</sup>

Adhering to another principle, that of proportionality, requires that those responsible for planning an attack must exercise caution to avoid launching an offensive against a legitimate military target if it could result in unintended loss of civilian lives, injuries to civilians, damage to civilian property, or overall harm that exceeds the expected direct military advantage. This concept, often referred to as ‘collateral damage’, requires a careful assessment of the potential consequences to ensure that the expected military gains do not disproportionately outweigh the potential harm to civilians and civilian assets (Article 57 of Additional Protocol I).<sup>15</sup>

In every attack, precautionary measures should be taken, such as verification of the military character of the objective to be attacked as well as selection of the methods and weapons that will avoid or, if not possible, minimize incidental civilian losses (Article 57 (2)).<sup>16</sup> These basic principles apply to attacks against water resources and water infrastructure, including dams. Generally, a dam is not a military objective by nature, but it may turn into such by its use or purpose (Milanovic 2023).<sup>17</sup> Tom Dannenbaum argues that the road crossing the Nova Kakhovka dam might be classified as a military objective based on its strategic position because it serves as a crucial route for Ukrainian troops to advance into Russian-controlled territory and plays a vital role in the Ukrainian counter-offensive. In regular circumstances, objects that meet this criterion can be considered legitimate targets, provided that reasonable efforts are made to minimize civilian

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<sup>14</sup> ‘Additional Protocol I on the Protection of Victims of International Law’ (1977) <<https://ihl-databases.icrc.org/ihl/INTRO/470>> accessed 15 July 2024.

<sup>15</sup> *ibid.*

<sup>16</sup> *ibid.*

<sup>17</sup> Milanovic M. (2023) *The Destruction of the Nova Kakhovka Dam and International Humanitarian Law: Some Preliminary Thoughts*, <https://www.ejiltalk.org/the-destruction-of-the-nova-kakhovka-dam-and-international-humanitarian-law-some-preliminary-thoughts/>.

casualties, and the expected impact on civilians does not outweigh the military advantage expected<sup>18</sup> (in other words, in accordance with the principle of proportionality).

## 2. PROHIBITION OF ATTACKING OBJECTS CONTAINING DANGEROUS FORCES

These provisions should be read together with Article 56 of Additional Protocol I, which actually takes precedence over provisions on precautions and proportionality in attack. It is important to note that Article 56 is placed in Chapter III entitled *Civilian objects*, which suggests that, as a rule, dams (also dykes and nuclear power plants enumerated in the provision) are regarded as such. The ICRC Commentary to Additional Protocol I (1987, 669) affirms that and elaborates it further, stating that dams are not permissible targets for attacks. When dams are deemed military objectives (in the meaning of Article 52) in exceptional circumstances, they are granted special protection, as outlined in Article 56 of the Protocol. This special protection is designed to ensure that such critical infrastructure is not unnecessarily targeted and that the potential consequences of attacking dams are carefully considered in line with the principle of proportionality to safeguard civilians and civilian properties.<sup>19</sup>

Article 56 in its relevant paragraphs states:

1. Works or installations containing dangerous forces, namely dams, dykes and nuclear electrical generating stations, shall not be made the object of attack, even where these objects are military objectives, if such attack may cause the release of dangerous forces and consequent severe losses among the civilian population. Other military objectives located at or in the vicinity of these works or installations shall not be made the object of attack if such attack may cause the release of dangerous forces from the works or installations and consequent severe losses among the civilian population. 2. The special protection against attack provided by paragraph 1 shall cease: (a) for a dam or a dyke only if it is used for other than its normal function and in regular, significant and direct support of military operations and if such attack is the only feasible way to terminate such support; [...] (c) for other military objectives located at or in the vicinity of these works or installations only if they are used in regular, significant and direct support of military operations and if such attack is the only feasible way to terminate such support. 3. In all cases, the civilian population and individual civilians shall remain entitled to all the protection accorded them by international law, including the protection of the precautionary measures provided

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<sup>18</sup> Tom Dannenbaum, 'What International Humanitarian Law Says About the Nova Kakhovka Dam' (2023) <<https://www.lawfaremedia.org/article/the-destruction-of-the-nova-kakhovka-dam-and-the-heightened-protections-of-additional-protocol-i>> accessed 15 July 2024.

<sup>19</sup> 'ICRC Commentary to Additional Protocol I' (1987) <<https://ihl-databases.icrc.org/en/ihl-treaties/api-1977/article-56/commentary/1987?activeTab=default>> accessed 15 July 2024.



for in Article 57. If the protection ceases and any of the works, installations or military objectives mentioned in paragraph 1 is attacked, all practical precautions shall be taken to avoid the release of the dangerous forces. 4. It is prohibited to make any of the works, installations or military objectives mentioned in paragraph 1 the object of reprisals. 5. The Parties to the conflict shall endeavour to avoid locating any military objectives in the vicinity of the works or installations mentioned in paragraph 1. Nevertheless, installations erected for the sole purpose of defending the protected works or installations from attack are permissible and shall not themselves be made the object of attack, provided that they are not used in hostilities except for defensive actions necessary to respond to attacks against the protected works or installations and that their armament is limited to weapons capable only of repelling hostile action against the protected works or installations. 6. The High Contracting Parties and the Parties to the conflict are urged to conclude further agreements among themselves to provide additional protection for objects containing dangerous forces.<sup>20</sup>

The first paragraph establishes a rule that prohibits attacks on various targets, including dams. In the second paragraph, a limited exception is outlined to this prohibition. Initially, the ICRC introduced an absolute prohibition without exceptions, but after lengthy debates, the provision was modified to its current form.<sup>21</sup> The general prohibition against attacks applies even when the dam is considered a military objective, as previously defined. However, this basic prohibition is qualified by the use of the term ‘if’ – meaning an attack is prohibited ‘if such attack may cause the release of dangerous forces and consequent severe losses among the civilian population’. This exception can be referred to as the ‘if not’ exception – indicating that if there is no such risk, the attack would be considered legal. Similar regulations are applicable to military objectives located in the vicinity of a dam.

According to Dannenbaum,

[i]n both respects the rule deviates from the ordinary law of armed conflict framework, pursuant to which military objectives may be targeted, with civilians and civilian objects protected from the effects of such targeting by the cumulative requirements of discrimination, proportionality, and precautions in attack.<sup>22</sup>

Consequently, the regulations outlined in Article 56 can be seen as specifying the fundamental principles of distinction, proportionality, and precautions in attack. Thus, the provisions in Article 56 take precedence; however, when an attack against a dam is legally permissible, the general principles of IHL still apply. In other words, dams receive specific protection in addition to the general rules of IHL. In the context of this topic, Dannenbaum (2022) indicates that ‘[b]y

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<sup>20</sup> Additional Protocol I (n14).

<sup>21</sup> ICRC Commentary (n19) 668.

<sup>22</sup> Tom Dannenbaum, ‘The attack at the Zaporizhzhia nuclear plant and Additional Protocol I’ (2022) <<https://Lieber.Westpoint.Edu/Attack-Zaporizhzhia-Nuclear-Plant/>> accessed 15 July 2024.



prohibiting the targeting of what would otherwise qualify as clear military objectives, Article 56 alters the rule of distinction'. Likewise, Yoram Dinstein (2004, 93) emphasizes that 'the military character of an object is not always conclusive in justifying an attack against it'.<sup>23</sup>

As to the risk of 'release of the dangerous forces' and its consequences, what matters is the mere risk of such release evaluated *ex ante*. ICRC Commentary (1987, 669) interprets this provision in the following way: an attack against works and installations containing dangerous forces, including dams, would be legal if 'such an attack cannot cause severe losses', which means that those that decide upon the attack must be certain that no such losses will occur. ICRC Commentary clarifies that evaluation of the severity of the losses among the civilian population requires common sense and good faith when taking into account such factors as vicinity to populated areas and density of the population.<sup>24</sup> Hence, it is the duty of the attacking forces to prove that there is no risk of release of the dangerous forces. If the parties involved in the conflict lack full information during the planning of an attack, the law requires them to adopt a cautious approach, taking into account the potential grave danger to civilians and the environment. In such cases, the parties must abandon the attack unless they can ensure that any release of dangerous forces is impossible (e.g., by restricting the planned attack to non-essential elements of the systems) or that civilian residents in the area are not exposed to the risk of severe losses or injuries.<sup>25</sup> Michael N. Schmitt clarifies that the prohibition specifically applies to scenarios where the release of the dam's water leads to losses among the civilian population. In situations where civilians are injured or killed at or near the dam during the attack, not as a result of the water's release, the standard targeting rules (distinction and proportionality) govern the situation. For instance, if an attacker chooses to use anti-personnel or other weapons that are not likely to cause a breach of the dam, Article 56 would not be applicable, even if there is a likelihood of significant civilian casualties.<sup>26</sup>

The second express exception to attacking dams envisioned in Article 56 (2) (a) is a very narrow one. It requires meeting 'three substantive criteria and one procedural criterion'<sup>27</sup> or 'triple qualification'<sup>28</sup> plus being used 'for other than normal function'. Once again, and as is often the case in IHL, common sense and

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<sup>23</sup> Yoram Dinstein, *The Conduct of Hostilities under the Law of International Armed Conflict* (Cambridge University Press 2004) 93.

<sup>24</sup> ICRC Commentary (n19) 669.

<sup>25</sup> Abby Zeith and Eirini Giorgou, 'Dangerous forces: the protection of nuclear power plants in armed conflict' (2022) <<https://blogs.icrc.org/law-and-policy/2022/10/18/protection-nuclear-power-plants-armed-conflict/>> accessed 15 July 2024.

<sup>26</sup> Michael N. Schmitt, 'Attacking dams – part II: the 1977 Additional Protocols' (2022) <<https://lieber.westpoint.edu/attacking-dams-part-ii-1977-additional-protocols/>> accessed 15 July 2024.

<sup>27</sup> Dannenbaum (n22).

<sup>28</sup> ICRC Commentary (n19) 671.

good faith play a vital role in interpreting these criteria. Considering the grave implications of a potential attack against dams, the decision to exempt such structures from protection can only be authorized at the highest level of command. Due to the significant risks and potential harm involved, any such decision must be approached with the utmost care and consideration, reflecting the principles of IHL and the protection of civilians and vital infrastructure.<sup>29</sup>

First of all, the term ‘other than its normal function’ must be clarified. According to the ICRC Commentary to Additional Protocol I it means ‘that the dam or dyke is used for a purpose other than containing an actual or potential mass of water, which is the normal function of such a structure; if the dam or dyke is not used for any other purpose, it must not be attacked under any circumstances’.<sup>30</sup> We can envision a case in which a dyke is an integral part of a fortification system, or a road on the top of a dam is an essential route for armed forces’ movement. However, for the protection to cease, such a dyke or dam must be a ‘regular, significant and direct support of military operation’, and there is no other feasible way to stop this support.<sup>31</sup> This scenario is an example of significant and direct support to enemy military operations, but even in this case the attacking party must do everything in its power to avoid the release of the waters.

As to the triple qualification, the dam must be used in ‘regular’ support of military operations which relates to time. This condition is not met if the armed forces draw occasionally on this source or use it as a backup. The ICRC Commentary clarifies that ‘accidental or sporadic use is not sufficient; there must be some continuity in the use, or at least some rhythm’.<sup>32</sup> Secondly, the dam must be used in ‘direct’ support of military operations. According to the ICRC Commentary, the term ‘direct’ means ‘not in an intermediate or a roundabout way,’ so the ‘relation between the act and its effect must be close and immediate’.<sup>33</sup>

The final substantial criterion pertains to the requirement of ‘significant’ support. The ICRC Commentary provides valuable guidance in understanding this aspect. It clarifies that ‘significant’ denotes a range of degrees of importance that must be determined. The support should not be negligible or merely an incidental factor; rather, it must be substantial, possessing a genuine and effective impact.<sup>34</sup> This interpretation emphasizes the need to assess the level of support provided, considering its tangible and meaningful influence on the military operation in question. Nevertheless, even if all these three substantive criteria are fulfilled,

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<sup>29</sup> *ibid* 670; ICRC, *Customary International Humanitarian Law. Volume I: Rules* (Cambridge University Press 2005) 141.

<sup>30</sup> ICRC Commentary (n19) 670-671.

<sup>31</sup> *ibid.*

<sup>32</sup> *ibid.*

<sup>33</sup> *ibid.*

<sup>34</sup> *ibid.*

any alternative offering a feasible way of stopping such support would preclude an attack (Article 56 (2)).

Similar criteria also apply to ‘other military objectives located at or in the vicinity of’ a dam, as specified in Article 56 (2) (c). Moreover, if installations attached to a dam serve solely defensive purposes (for example against saboteurs) and are utilized accordingly, they cannot be categorized as military objectives providing direct, regular, and significant support to military operations.<sup>35</sup> This aligns with the passive precautions outlined in paragraph 5 of Article 56, which pertain to the positioning of military objects near works or installations containing dangerous forces, particularly relevant to dams in this context. Both the defender and attacker hold an equal obligation to take all feasible precautions against attacks, with the defender ensuring the preservation or enhancement of protection for facilities and installations containing dangerous forces. Such facilities must not directly support military operations and military objectives should be located at an adequate distance from these installations, avoiding the use of these installations as shields for military operations.<sup>36</sup> Consequently, both parties in the conflict should strive to avoid positioning any military objectives, except for purely defensive ones, in close proximity to such works and installations. Nonetheless, the failure to comply with this provision would not, by itself, justify the removal of protection for military objectives located near the power station. As stated, the exclusive conditions that must be met before targeting such objectives are outlined in paragraph 2 (c) of Article 56. Purely defensive installations used solely in a defensive capacity are not legitimate targets in any scenario. Furthermore, even non-defensive military objectives (though not located near the dam) must not be attacked unless the conditions specified in Article 56 (2) (c) are met.<sup>37</sup>

Paragraph 4 of Article 56 explicitly specifies the prohibition ‘to make any of the works, installations or military objectives mentioned in paragraph 1 the object of reprisals’, thus affirming further the above considerations. A breach of paragraph 5 by one party to the conflict does not imply that paragraph 2 (c) may be breached as a mechanism of law enforcement.<sup>38</sup>

Lastly, the Protocol urges state-parties engaged in the conflict to establish agreements that would provide enhanced protection for objects containing dangerous forces. Such measures may involve neutralization of these objects or the establishment of demilitarized zones.<sup>39</sup>

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<sup>35</sup> Dannenbaum (n22).

<sup>36</sup> ICRC Study (n29) 141.

<sup>37</sup> Dannenbaum (n22).

<sup>38</sup> Additional Protocol I (n14).

<sup>39</sup> ICRC Commentary (n19) 674; for more in-depth information on demilitarized zones, refer to Schmitt (n6) (n26); Zeith and Giorgou (25).

### 3. PROHIBITION OF STARVATION AND OBJECTS INDISPENSABLE TO THE SURVIVAL OF THE CIVILIAN POPULATION

Another important provision that must be kept in mind is Article 54 of Additional Protocol I prohibiting starvation of civilians as a method of warfare. Paragraph 2 adds that:

It is prohibited to attack, destroy, remove or render useless objects indispensable to the survival of the civilian population, such as foodstuffs, agricultural areas for the production of foodstuffs, crops, livestock, **drinking water installations and supplies and irrigation works**, for the specific purpose of denying them for their sustenance value to the civilian population or to the adverse Party, whatever the motive, whether in order to starve out civilians, to cause them to move away, or for any other motive [emphasis added].<sup>40</sup>

Hence, in the light of Article 54, some dams and dykes can be considered as irrigation works, and there are irrigation structures that are used at the same time as power generators. Therefore, if such works are to be attacked, an additional condition must be met: as Article 54 para 3 specifies, the objective of such an attack must be to subvert the opposing military units or to provide other direct support for military actions. Even if this condition is met, such an attack is prohibited if damaging such objects may cause starvation among the local population or force them to move away from their homes.<sup>41</sup>

It is worth mentioning that according to paragraph 5 of Article 54 in the context of defending its national territory against invasion, a party to the conflict may temporarily set aside the prohibitions stated in paragraph 2 if it is deemed necessary due to imperative military necessity. This recognition allows for derogation from the stated prohibitions within the territory under the party's control to address critical military requirements during the conflict.<sup>42</sup> This would hypothetically allow Ukraine – but not Russia, an occupying power – to destroy such objects on its territory.

### 4. PROTECTION OF THE ENVIRONMENT

Additional Protocol I also protects the environment (needless to say, water is part of the environment) in the following terms:

Care shall be taken in warfare to protect the natural environment against widespread, long-term and severe damage. This protection includes a prohibition of the use of methods or means of warfare which are intended or may be expected to cause such

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<sup>40</sup> Additional Protocol I (n14).

<sup>41</sup> ICRC Commentary (n19) 671.

<sup>42</sup> Additional Protocol I (n14).

damage to the natural environment and thereby to prejudice the health or survival of the population (paragraph 1).<sup>43</sup>

Similar provisions may be found in Article 35 (3). What both Articles focus on is prohibiting the use of means of warfare leading to ‘widespread, long-term and severe damage to the natural environment’, and their scope seems to be extensive, at least at first perusal (The Environment and International Humanitarian Law, nd).<sup>44</sup> Article 55 perceives the protection of the environment or the need to protect it through the anthropocentric lens of population’s health and survival, while Article 35 (3) operates without any anthropocentric connections.<sup>45</sup>

## 5. SOFT LAW INSTRUMENTS – THE GENEVA PRINCIPLES ON THE PROTECTION OF WATER INFRASTRUCTURE

As to the soft law instruments, the Geneva Principles on the Protection of Water Infrastructure is the first text that gathers the primary rules governing the protection of water infrastructure in the context of armed conflicts. It encompasses guidelines not only pertaining to the conduct of hostilities but also for post-conflict situations, providing comprehensive recommendations that extend beyond the current legal framework.<sup>46</sup> The Principles reaffirm that parties involved in a conflict should abstain from utilizing water infrastructure and related facilities as tools of warfare. Whenever attacking water infrastructure and related facilities is employed as a tactic of warfare during hostilities, it is imperative to uphold the principles of distinction, proportionality and precautions (Principle 4).<sup>47</sup> The Principles explain that the primary roles of water infrastructure, apart from managing wastewater, can be broadly classified into four categories that benefit the population: supplying drinking water, facilitating domestic needs, supporting irrigation, and generating energy. Therefore, the term ‘water infrastructure’ encompasses all structures, installations, and facilities involved in these functions, which directly or indirectly impact the health and survival of the population.<sup>48</sup> Principle 5 restates customary international law rule that ‘the use of poison or poisoned weapons against water and water infrastructure is prohibited’.<sup>49</sup>

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<sup>43</sup> *ibid.*

<sup>44</sup> ‘The Environment and International Humanitarian Law’ (nd) <<https://casebook.icrc.org/case-study/environment-and-international-humanitarian-law>> accessed 15 July 2024.

<sup>45</sup> Additional Protocol I (n14).

<sup>46</sup> Geneva Principles (n13) v.

<sup>47</sup> *ibid.*

<sup>48</sup> *ibid* v.

<sup>49</sup> *ibid*; see also Article 23 (a) of the Regulations annexed to IV Hague Convention respecting the Laws and Customs of War on Land and its annex: Regulations concerning the Laws and Customs of War on Land, 1907 <<https://ihl-databases.icrc.org/assets/treaties/195-IHL-19-EN.pdf>> accessed 15 July 2024.

## 6. CRIMINAL RESPONSIBILITY FOR VIOLATIONS OF IHL

Finally, a few comments should be made on the issue of criminal responsibility for violations of IHL with reference to water resources and water infrastructure. It is essential to note that launching an attack against a dam (or other objects containing dangerous forces) with the knowledge that such an attack will result in unacceptable collateral damage (in other words, an attack that violates the principle of proportionality) constitutes a war crime under Article 85 (3) (c) of Additional Protocol I.<sup>50</sup> To qualify as such, the attack must also have been ‘committed willfully, in violation of the relevant provisions of this Protocol, and causing death or serious injury to body or health’. This underscores the gravity of ensuring compliance with IHL principles and the need for responsible decision-making in armed conflicts involving vital infrastructure and objects that may pose risks to civilian populations and the environment. It is worth adding that Article 8 (2) (b) (xxv) of the ICC Statute (1998) envisages a war crime of depriving civilians of the objects indispensable to their survival, without specifying any particular form that the deprivation may take.<sup>51</sup> Consequently, debates concerning whether the destruction of a dam would qualify as an ‘attack’ under IHL – as will be discussed in section 3 below – do not matter in this context as they do with reference to the special protections granted to dams under Article 56 as this provision mentions an ‘attack’. The focus of this war crime is on the act of depriving civilians of access to the protected objects, regardless of the method or means used to achieve that deprivation, so not only on attacks against such objects but also destroying them, removing them or rendering them useless. And importantly, it is necessary to prove the intent to starve (‘intentionally using starvation of civilians as a method of warfare by depriving them of objects indispensable to their survival’).

Moreover, according to Article 8 (2) (b) (iv), it is a war crime to ‘intentionally launch [...] an attack in the knowledge that such attack will cause [...] widespread, long-term and severe damage to the natural environment which would be clearly excessive in relation to the concrete and direct overall military advantage anticipated’ (in other words in violation of the principle of proportionality).<sup>52</sup> Dannenbaum claims that considering the significant expected harm to civilians and the environment at present, the military advantage foreseen must be extraordinary for the attack to be considered proportionate. Although there is limited legal precedent explicitly defining disproportionate attacks as war crimes, even

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<sup>50</sup> Additional Protocol I (n14).

<sup>51</sup> ICC (International Criminal Court) Statute (1998) <<https://www.icc-cpi.int/sites/default/files/RS-Eng.pdf>> accessed 15 July 2024.

<sup>52</sup> *ibid.*

under a highly stringent criminal standard, it is very probable that any intentional, destructive attack on the dam would be deemed excessively harmful to civilians.<sup>53</sup>

### III. CASE STUDY OF WATER WEAPONIZATION DURING RUSSIAN AGGRESSION AGAINST UKRAINE

The utilization of water resources and infrastructure as a tactic of warfare has grown more prominent in the ongoing armed conflict between Russia and Ukraine. Since 2014, both countries have employed water as a weapon. Incidents include three kinds of activities: 1. targeted attacks on water infrastructure, 2. intentional water contamination, and 3. flooding with the purpose of hindering enemy movements or advances. Moreover, water was utilized to instill fear among civilians, as witnessed in events like the case of Mariupol.<sup>54</sup> For example, in February 2022, Russian forces targeted and destroyed a dam in Ukraine's Kherson region that had been blocking water access to Russian-annexed Crimea. The destruction of the dam further escalated tensions between the two countries. In the city of Mariupol, located in southeastern Ukraine, Russian soldiers implemented a brutal siege and deliberately shut off the local water supply. As a result, the trapped population in the city was left without access to safe drinking water and proper sanitation. Mariupol fell under Russian control earlier in the week, exacerbating the dire situation for civilians in the city.<sup>55</sup> This could be treated as part of psychological war aimed at terrorizing the civilian population.<sup>56</sup> On the other hand, in February 2022, the Ukrainian army took a strategic measure and detonated a dam on the river Irpin. The explosion resulted in a surge of water inundating the nearby village and thousands of acres of surrounding land, causing the flooding of houses and fields. However, this action successfully prevented Russian tanks from advancing and reaching the capital city. The decision to blow up the dam was a calculated move aimed at thwarting the enemy's advance and

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<sup>53</sup> Dannenbaum (n18); on an interesting concept of treating the destruction of the Nova Kakhovka dam as a means of committing the crime against humanity of 'forcible transfer of population' (Article 7 (d) ICC Statute) see Aaron Dumont, 'A 'Clear' War Crime Against the Environment? The Destruction of the Nova Kakhovka Dam' (2023) <<https://voelkerrechtsblog.org/a-clear-war-crime-against-the-environment/>> accessed 15 July 2024.

<sup>54</sup> Mara Tignino, Tadesse Kebebew and Caroline Pellaton, 'International law and accountability for the Nova Kakhovka dam disaster' (2023) <<https://lieber.westpoint.edu/international-law-accountability-nova-kakhovka-dam-disaster/>> accessed 15 July 2024.

<sup>55</sup> Antonia Zimmermann, 'Russia's war on water in Ukraine' (2023) <<https://www.politico.eu/article/russias-war-on-water-in-ukraine/>> accessed 15 July 2024.

<sup>56</sup> King (n1) 158.



protecting the capital (Reuters 2022).<sup>57</sup> As mentioned in section 2, Ukraine was legally entitled to do so according to paragraph 5 of Article 54. In the context of defending its national territory against invasion, Ukraine could destroy objects indispensable to the survival of the civilian population if it was deemed necessary due to imperative military necessity.

The UN General Assembly also expressed its alarm at attacks against water infrastructure in Ukraine. For example, in its resolution No ES-11/2 Humanitarian Consequences of the Aggression against Ukraine, it demanded ‘full respect for and protection of objects indispensable to the survival of the civilian population and civilian infrastructure that is critical to the delivery of essential services in armed conflict’, such objects clearly encompassing drinking water or irrigation systems.<sup>58</sup> The UN Security Council could not react as it is blocked by the Russian veto.

The most serious water infrastructure incident during the Russian aggression against Ukraine was the Russian destruction of the Nova Kakhovka dam on the Dnipro river on 6 June 2023. The destruction of this critical infrastructure, which played a vital role in the hydroelectric generation and water supply capacities of southern Ukraine and cooling the Zaporizhzhia nuclear power plant, is irreversible. The consequences will be immense, impacting humanitarian, ecological, agricultural, and economic aspects. The destruction of the Nova Kakhovka dam appears to be a significant humanitarian and ecological disaster (President Zelensky even called it ‘ecocide’<sup>59</sup>), although further investigation is required for a comprehensive understanding of the circumstances. The incident led to direct and immediate consequences such as catastrophic flooding, resulting in the devastation of multiple villages and thousands of hectares of agricultural land. The destruction of the dam severely disrupted the water supply in the region and introduced heavy pollutants, leading to tens of thousands of people losing access to safe drinking water. But the flooding caused by the destruction will also have lasting environmental effects, with chemical and pyrotechnic pollution from fuel oil tanks, mines, and unexploded ordnance washing away, leaving a lasting impact for decades to come. The region’s flora, fauna and fertile land, along with the ecosystems of its rivers, lakes, and the marine environment of the Black Sea, will suffer severe damage. The quality of groundwater in aquifers and surface

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<sup>57</sup> Reuters, ‘Ukraine blew up a dam to stop the Russian advance on Kyiv, some homes remain flooded’ (2022) <<https://www.reuters.com/world/europe/months-after-dam-destroyed-stop-russian-advance-parts-village-still-flooded-2022-05-29/>> accessed 15 July 2024.

<sup>58</sup> UN General Assembly, ‘Resolution no ES-11/2. Humanitarian consequences of the aggression against Ukraine’ (2022), para 5 <<https://research.un.org/en/docs/ga/quick/emergency>> accessed 15 July 2024.

<sup>59</sup> Ken Silverstein, ‘President Zelensky: The Destruction Of Hydroelectric Dam Is ‘Ecocide’’ (2023) <<https://www.forbes.com/sites/kensilverstein/2023/06/08/president-zelensky-the-destruction-of-hydroelectric-dam-is-ecocide/>> accessed 15 July 2024.

water will also be significantly degraded, making it extremely challenging to provide water to the population for an extended period.<sup>60</sup>

Both Russia and Ukraine are parties to the four Geneva Conventions (which reflect customary international law) and to Additional Protocol I, the latter containing the provisions dedicated to the protection of dams. These provisions clearly apply to the Nova Kakhovka Dam.

Assuming that Russia attacked the Nova Kakhovka dam,<sup>61</sup> first of all, it must be clarified whether the dam was identified as a military objective. If yes, those involved in planning and carrying out military operations must initially assess whether the object in question is granted special protection under IHL. Dams are such objects as they contain dangerous forces and as a consequence they must not be attacked, 'even when they become military objectives, if such attack may cause the release of dangerous forces and consequent severe losses among the civilian population'.<sup>62</sup> The exceptions to this general rule are very narrow. In this context, the basic question is whether the Nova Kakhovka dam was used 'for other than its normal function and in regular, significant and direct support of military operations and if such attack is the only feasible way to terminate such support'. Neither Russia nor Ukraine have claimed that any military use of the dam had occurred.<sup>63</sup> Even if it was confirmed that the dam was a military objective, it would still be prohibited to attack it if the attack could 'cause the release of dangerous forces and consequent severe losses among the civilian population'. In this context, it is necessary to determine whether losses among the civilian population were severe, and whether the dam's destruction might have caused such losses. The severity threshold is somewhat ambiguous, but in a situation involving a risk to many thousands of people in areas that have not undergone prior evacuation, it is likely to be exceeded. The potential impact on civilians in the case of Nova Kakhovka dam is immense (as pointed out above), and if this situation is not considered severe in terms of the risk to civilian life, it becomes challenging to envision what circumstances would meet the severity criteria.<sup>64</sup> As to the question whether such an attack 'may cause the release of dangerous forces and consequent severe losses among the civilian population', the likelihood threshold is relatively low as the mere risk suffices (as discussed in section 2).

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<sup>60</sup> Franck Galland, 'War in Ukraine: 'The destruction of the Kakhovka dam marks a turning point in 21st century wars'' (2023) <[https://www.lemonde.fr/en/opinion/article/2023/06/08/war-in-ukraine-the-destruction-of-the-kakhovka-dam-marks-a-turning-point-in-21st-century-wars\\_6030458\\_23.html#](https://www.lemonde.fr/en/opinion/article/2023/06/08/war-in-ukraine-the-destruction-of-the-kakhovka-dam-marks-a-turning-point-in-21st-century-wars_6030458_23.html#)> accessed 15 July 2024; Tignino, Kebebew and Pellaton (n54).

<sup>61</sup> For confirmation of these allegations, see James Glanz and others, 'Why the Evidence Suggests Russia Blew Up the Kakhovka Dam' (2023). <<https://www.nytimes.com/interactive/2023/06/16/world/europe/ukraine-kakhovka-dam-collapse.html>> accessed 15 July 2024.

<sup>62</sup> Article 56 of Additional Protocol I (n14).

<sup>63</sup> Tignino, Kebebew and Pellaton (n54).

<sup>64</sup> Milanovic (n17); Dannenbaum (n18).

Due to the essential importance of the Nova Kakhovka dam as a vital source of irrigation and drinking water in the area, the destruction of the dam and the subsequent draining of its waters also raises concerns about the prohibition of destroying objects indispensable for the survival of the civilian population. Hence, the Nova Kakhovka dam incident also involves another IHL prohibition examined above, which pertains to the protection of objects essential for the survival of the civilian population. This prohibition is not limited to ‘attacks’ but also extends to the destruction, removal, or rendering such objects useless.<sup>65</sup> Here, remarkably, regardless of any suggestions that Russia blew up the dam from within the controlled territory, such actions would still constitute violation of the special protection granted to dams. As to those suggestions, there are some doubts as to whether the Nova Kakhovka incident constituted an attack within the meaning of IHL, in particular, relevant for this paper Article 56 of Additional Protocol I. For example, Marko Milanovic argues that the sabotage of a dam within a state’s own territory, with the aim of flooding the downstream area to impede the advancement of enemy troops, might not fall explicitly under the category of an ‘attack’ as defined by IHL, and Russia could indeed assert that the situation regarding the Nova Kakhovka dam falls under the circumstances described, arguing that the dam is located within territory under their control, irrespective of the fact that the installation is objectively situated in the territory under Ukrainian sovereignty.<sup>66</sup> Milanovic states that:

[...]if the initial damage to the dam was caused by Russia, e.g. by damaging a sluice gate which then in a catastrophic chain of events led to the collapse of the whole dam, it is somewhat less clear whether this event would qualify as an ‘attack’. Generally IHL does NOT regard as attacks the sabotage of a party’s own dam [...]. If, for example, Ukraine sabotaged a dam under its control in order to flood an area and prevent Russian troops from advancing, this would not be an attack on the dam in the sense of IHL, even if civilians died as a result. From Russia’s perspective the Nova Kakhovka dam is precisely in such a situation, especially because it was under its control – even if as an objective matter the dam and the whole territory is under Ukrainian sovereignty.<sup>67</sup>

Still, despite the fact of the dam being under the Russian control, Russia was not the sovereign but the occupying state. Hence, one may question the application by analogy of this provision to Russia.

Going back to Article 54 of Additional Protocol I, Dannenbaum envisages two scenarios based on the interpretation of these provisions: 1) according to Article 54 (2)-(3)(a), certain objects indispensable for survival cannot be targeted for their sustenance value, even if they also benefit adversary forces. In other words, dual-use sustenance items (e.g., food or water for civilians and combatants) are

<sup>65</sup> Article 54 of Additional Protocol I (n14).

<sup>66</sup> Milanovic (n17); see also Tignino, Kebebew and Pellaton (54); Dannenbaum (n18).

<sup>67</sup> Milanovic (n17).

protected from attack. This prohibition applies regardless of intent or outcome and is solely based on the purpose of sustenance denial and its impact on civilians; 2) Article 54 (3)(b) allows the targeting of objects indispensable to civilian survival for non-sustenance reasons, but only if two conditions are met. First, the objects must provide direct support for military action, similar to the exception for attacking dams. Second, even if direct support is established, targeting is still prohibited if it is expected to lead to civilian starvation or forced displacement due to insufficient food or water. It is currently challenging to determine whether the Russian operation's purpose was sustenance denial; however, the destruction has created a significant risk of starvation or displacement due to inadequate food or water, which may have been anticipated at the time of the incident.<sup>68</sup>

The explosion of the dam could potentially also violate the protection accorded to the natural environment envisaged in Articles 35 (3) and 55 of the Additional Protocol I examined in section 2. Article 55 (1) expressly mentions a damage to the natural environment endangering the health or survival of the population.<sup>69</sup> At the beginning of this section, the severe consequences to the environment, reaching the level of ecological catastrophe, were indicated. These prohibitions mandate parties involved in the conflict to safeguard the natural environment from such detrimental effects. The extremely stringent criteria established in these provisions have faced consistent criticism. Nonetheless, those responsible for planning and conducting such an action against the dam must have been fully aware of the inevitable ecological catastrophe that would follow.<sup>70</sup>

Regarding the requirement in Article 55 (1) that the damage should 'prejudice the health or survival of the population', two important points should be highlighted. Firstly, Article 35 (3) does not include such a specific, anthropocentric requirement. Secondly, considering the impacts discussed earlier, it is highly likely that the destruction of the dam could be seen as prejudicing the health or survival of the population in the affected area. The consequences of water contamination in armed conflicts are frequently severe, further underscoring the potential harm inflicted on civilian well-being and survival.<sup>71</sup>

As to the criminal responsibility for the Nova Kakhovka dam's breach, Russia is a party to Additional Protocol I, so provisions of Article 85 (3) (c) are applicable. Even though Russia (and Ukraine as well) have not ratified the ICC Statute, the ICC has jurisdiction in this case on the basis of Ukrainian acceptance of its jurisdiction. On two occasions, Ukraine expressed its consent to the ICC's jurisdiction concerning potential crimes under the ICC Statute that may have occurred within its borders. The initial declaration pertained to alleged crimes on Ukrainian territory between 21 November 2013 and 22 February 2014, while the sub-

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<sup>68</sup> Dannenbaum (n18).

<sup>69</sup> Additional Protocol I (n14).

<sup>70</sup> Tignino, Kebebew and Pellaton (n54).

<sup>71</sup> Dannenbaum (n18).

sequent declaration expansively extended the previous one to encompass crimes purportedly committed across the entire Ukrainian territory from 20 February 2014 onwards (Statement of the ICC Prosecutor 2022).<sup>72</sup>

#### IV. CONCLUSIONS

Safeguarding water resources and installations is a critical aspect of protecting civilians during armed conflicts. ‘Contemporary armed conflicts have seen an increase in attacks against and the weaponization of water infrastructure. These acts have severe consequences on the environment and most importantly on the civilian population, especially on the most vulnerable groups, such as children’.<sup>73</sup> The destruction of the Nova Kakhovka dam is an illustration of this trend and, at the same time, an example of a breach of various IHL obligations identified in this article. Answering the first research question, these IHL obligations or provisions are definitely protective of water resources and infrastructure and generally do not allow attacking or destroying them. The exceptions to the prohibition of attacks against dams are very narrow and not applicable to the Nova Kakhovka dam. Furthermore, the destruction of the dam reached the level of a war crime codified in Article 85 (3) (c) of Additional Protocol and potentially of other war crimes discussed in the article.

The destruction of the Nova Kakhovka dam was aimed at delaying and/or disturbing the Ukrainian counter-offensive. It significantly disrupted the strategic situation in southern Ukraine, compelling both parties to make significant adjustments. As a result, especially the Ukrainians needed to reassess the situation and its implications. The repercussions of the dam’s breach have introduced uncertainties and complexities into the conflict dynamics, impacting the strategic calculations of both sides.<sup>74</sup> Taking all this into account, one may conclude that water resources and water infrastructure incidents in the Russian aggression against Ukraine illustrate the disturbing phenomenon of weaponizing water (treating water and water infrastructure as a means of warfare) in order to further the belligerent’s political and military aims. The above analysis showed that water resources and infrastructure may be weaponized as a military target (when they are damaged or destroyed so that they unleash destructive capabilities that

<sup>72</sup> ‘Statement of ICC Prosecutor, Karim A.A. Khan QC, on the Situation in Ukraine: Receipt of Referrals from 39 States Parties and the Opening of an Investigation’ (2022) <<https://www.icc-cpi.int/Pages/item.aspx?name=2022-prosecutor-statement-referrals-ukraine>> accessed 15 July 2024.

<sup>73</sup> Geneva Principles (n13) v.

<sup>74</sup> For more details see Frank Gardner, ‘Nova Kakhovka: Who benefits from breaching the dam?’ (2022) BBC <<https://www.bbc.com/news/world-europe-65821052>> accessed 5 July 2024.

enable forces to cause harm to populations beyond the scope of their traditional capacities) but also as a military tool when water infrastructure under the control of a party to the conflict is used to terrorize populations or directly aid tactical objectives during military operations.<sup>75</sup> Ukrainian acts may be understandable as the state is defending itself against the aggressor, but Russia's actions clearly reach not only the level of IHL violations but also of war crimes.

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<sup>75</sup> For more details on this classification, see Daoudy (n9).



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